

## The PIXE-PAN Program at Notre Dame



A successful new program in the tradition of the JINA PAN program at MSU has been introduced at Notre Dame. The PIXE-PAN program at Notre Dame uses the existing low energy accelerator facility to introduce high school teachers and students to a two week program in material analysis techniques with accelerators.

The program took place on June 12-23, 2006, six high school teachers from three states and ten students from six different schools participated. The student population included four females. Several lectures on nuclear physics, accelerator physics, beam interactions, and material science were offered by the faculty. The first week was dedicated to teacher training in accelerator operation, detector use, and data analysis. During the second week, the students joined the program and students and teachers worked together on three distinct experimental setups covering accelerator based PIXE, radioactivity in everyday objects and the measurement of a radioactive half life. Samples used during the program included ancient Roman and Greek Coins, US and European coins, various geological samples, assorted ceramics and some food items. The teachers and students both were given the freedom to design and perform their own experiments using provided equipment. During the last day of the program, the students presented their results to an audience including many parents and faculty.

The overall response of the participants was very positive and it was clear from the quality of the presentations that the students not only enjoyed the experience, but also learned a great deal.



### Related Web Sites:

<http://www.jinaweb.org/outreach/PIXE/>

<http://www.jinaweb.org/outreach/PIXE/pixe-pan06.html>

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